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EXAMINER

POLLACK, MELVIN H

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 09/451,802
Filing Date: December 01, 1999
Appellant(s): SUNDAR, MURALI

Melvin H. Pollack
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 10 September 2004.

(1) *Real Party in Interest*

A statement identifying the real party in interest is contained in the brief.

(2) *Related Appeals and Interferences*

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) *Status of Claims*

The statement of the status of the claims contained in the brief is correct.

(4) *Status of Amendments After Final*

No amendment after final has been filed.

No amendment after final has been filed.

(5) *Summary of Invention*

The summary of invention contained in the brief is correct.

(6) *Issues*

The appellant's statement of the issues in the brief is correct.

(7) *Grouping of Claims*

The rejection of claims 1-21 stand or fall together because appellant's brief does not include a statement that this grouping of claims does not stand or fall together and reasons in support thereof. See 37 CFR 1.192(c)(7).

(8) *Claims Appealed*

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) *Prior Art of Record*

5,963,944	ADAMS	10-1999
6,289,378	MEYER	09-2001
6,233,601	WALSH	05-2001
5,987,135	JOHNSON	11-1999

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1-21 are rejected under 35 U.S.C. 103(a). This rejection is set forth in a prior Office Action, mailed on 07 June 2004.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2, 7, 8, 16-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Adams (5,963,944) in view of Meyer et al. (6,289,378).

3. For claim 1, Adams teaches a method (see abstract) of managing the state of networked computers (col. 1, lines 9-11), comprising:

- a. Specifying a preferred state (col. 9, lines 46-50);
- b. Defining selected networked computers to be maintained in the preferred state (col. 5, lines 3-15);
- c. Monitoring the selected networked computers for deviation from the preferred state (col. 2, lines 30-40); and

- d. Bringing the selected networked computers that deviate from the preferred state to the preferred state (col. 3, line 65 – col. 4, line 7) via a mobile software agent (col. 1, lines 49-51) that travels autonomously between the selected networked computers (col. 4, lines 16-32).
4. As shown previously, Adams teaches a generic set of preferred states, including at least one form of control of the remote nodes. The primary purpose of Adams is to manage data stored on each node, i.e. by managing, moving, changing, indexing, and distributing data and index files (col. 1, lines 5-10 and 43-53). The functions also include the aggregation of similar data structures (col. 3, lines 5-10), the transfer of data and indexing files, the replication of files for backup and error correction purposes (col. 3, line 65 – col. 4, line 35; col. 10, lines 5-20), and other possibly encoded functions. One final particular function is the ability to add data files to the system, or to find particular files and aggregate them (col. 6, lines 25-55; col. 7, lines 30-40). Finally, Adams teaches a method of replacing certain files with later versions of the same file (col. 9, lines 20-30). Thus, the moving and manipulation of files changes the state of the node in a number of ways and for a number of purposes. And furthermore, Adams uses the agents and control techniques to maintain certain states, i.e. that files are sufficiently redundant or that files are sufficiently spread out among the nodes.
5. The examiner would now like to discuss the issue of hardware and software configuration. At its core is the updating of certain files, be they a change in a DLL library file, an update or change to a device driver, or a new program or service loaded onto the node. This is especially the case for upgrading systems through the use of agents. New hardware cannot be added through an agent; the hardware and software configuration changes must occur through

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the addition, deletion, manipulation, and moving/copying of files in software or firmware, i.e. by upgrading the version of a particular file. Thus, the particular functions above, with some modification, may be used to provide a whole suite of methods to maintain hardware and software configuration.

6. Adams does not expressly disclose that the preferred state comprises at least one of hardware or software configuration of the networked computers. Meyer teaches a method (see abstract) for a remote (col. 1, lines 29-31) management system (col. 1, lines 6-7) that is capable of managing hardware and software configurations (col. 1, lines 35-40) using remote agents (col. 1, lines 40-45). This includes monitoring of the system (col. 1, lines 50-52) and control of the system (col. 1, lines 53-55). Further, a change to a computer implies that a preferred state was at one point specified. For more information, the applicant is directed to col. 5, line 40 – col. 6, lines 19. At the time the invention was made, one of ordinary skill in the art would have combined the two inventions in order to improve on Adams' goal for scalability and configuration change abilities (Adams: col. 1, lines 23-25), and to improve Adams file sharing abilities (Meyer: col. 2, lines 38-41) and improved data and indexing functions through features such as disk drive handling and software inventory (Meyer: col. 5, line 60 – col. 6, line 10; col. 5, lines 55-60).

7. Claims 2 and 8 are drawn to many of the features in claim 1, and are also rejected. The examiner suggests cancellation of these claims.

8. For claim 7, Adams teaches that a mobile software agent performs the monitoring (Fig. 2, #126).

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9. Claim 16 is a machine-readable medium with instructions stored thereon, the instructions operable when executed to implement the method drawn in claim 1. Claims 17-19 are similar, but do not have all the limitations. The prior art teaches that a software implementation is functionally equivalent to the underlying method. Since claim 1 is rejected, then claims 16-19 are also rejected for the reasons above.

10. Examiner takes Official Notice (see MPEP § 2144.03) that "program instructions are stored on a medium and operable when executed" in a computer networking environment was well known in the art at the time the invention was made. One of ordinary skill in the art, at the time the invention was made, would have been aware of programs stored on disks (or other media) and executed to perform operations.

11. The Applicant is entitled to traverse any/all official notice taken in this action according to MPEP § 2144.03. However, MPEP § 2144.03 further states "See also *In re Boon*, 439 F.2d 724, 169 USPQ 231 (CCPA 1971) (a challenge to the taking of judicial notice must contain adequate information or argument to create on its face a reasonable doubt regarding the circumstances justifying the judicial notice)." Specifically, *In re Boon*, 169 USPQ 231, 234 states "as we held in *Ahlert*, an applicant must be given the opportunity to challenge either the correctness of the fact asserted or the notoriety or repute of the reference cited in support of the assertion. We did not mean to imply by this statement that a bald challenge, with nothing more, would be all that was needed". Further note that 37 CFR § 1.671(c)(3) states "Judicial notice means official notice". Thus, a traversal by the Applicant that is merely "a bald challenge, with nothing more" will be given very little weight.

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12. Claim 20 is drawn to a computerized network computer management system comprising a hardware implementation of the method drawn in claim 1. The prior art teaches that a hardware implementation is functionally equivalent to a software implementation. Therefore, since claim 1 is rejected, then claim 20 is also rejected for the reasons above.

13. Claim 21 is drawn to a method with many of the same limitations as claim 1. Since claim 1 is rejected, then claim 21 is also rejected for the reasons above.

14. Claims 3-6, 10-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Adams and Meyer as applied to claims 1, 2, 7, 8 above, and further in view of Walsh (6,233,601).

15. Walsh teaches (see abstract) a mobile software agent (Fig. 3) that travels autonomously (Fig. 5) between the selected networked computers (Fig. 6).

16. Adams teaches a mobile agent, as shown above, but does not adequately disclose the technique of agent movement. For claims 3 and 4, Walsh teaches that the agent travels to the computers on a generated list of networked computers to be maintained in the preferred state (Fig. 6, #28). As for claims 5 and 6, Walsh teaches that selecting the computers involves defining a network space of computers, wherein the agent autonomously travels to the computers within this space (Fig. 6). At the time the invention was made, one of ordinary skill in the art would have used the Walsh method of agent travel to determine the Adams method of travel and to provide efficient mobility of code (col. 2, lines 16-17).

17. For claim 10, Walsh teaches that the mobile agent travels by transferring itself from one computer to the next, and erasing itself from the present computer after it has successfully transferred itself (col. 4, lines 47-57). Adams teaches the need for a mobile agent to travel

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efficiently (col. 4, lines 16-32), but does not expressly disclose that the agent is deleted. At the time the invention was made, one of ordinary skill in the art would have used the Walsh travel method to increase Adams' mobile agent efficiency.

18. For claims 11-15, Walsh teaches that the agent can decide to travel to computers not originally on the itinerary, and maintains a trip report that is sent to the host both periodically and upon return (col. 2, lines 47 – 58). Walsh also teaches that the selected network computers have a mobile software agent host program thereon to facilitate mobile software agent travel and execution (Fig. 5, 7). Adams does not expressly disclose a travel log, but does teach that an agent may change its itinerary (col. 4, lines 16-32) and belongs to an agent host program (Fig. 1, 110). At the time the invention was made, one of ordinary skill in the art would have used a Walsh agent system to more accurately control and track an Adams agent.

19. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Adams and Meyer as applied to claims 1, 2, 7, 8 above, and further in view of Johnson et al (5,987,135).

20. Johnson teaches many of the limitations in claim 1, as shown in prior office actions. As for claim 9, Johnson teaches that the mobile software agent that brings the selected networked computers that deviate from the preferred state to the preferred state also performs the monitoring the selected networked computers for deviation from the preferred state by first monitoring each selected networked computer it travels to for deviation from the preferred state and subsequently bringing the computer to the preferred state if it deviates from the preferred state (It was shown in prior office actions that an agent can have a monitor capability and another agent can have a correction capability. But the above says that an agent can “perform any or all

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of the following functions” in col. 5, line 1. That is, the same agent can perform both monitor and correction functions.).

21. Adams teaches many of the above details, but does not fully disclose all of the monitoring techniques. At the time the invention was made, one of ordinary skill in the art would have used Johnson’s monitoring agents to learn how to implement the monitoring agents of Adams.

(11) Response to Argument

22. Applicant's arguments filed 10 September 2004 have been fully considered but they are not persuasive. A detailed discussion of the arguments is provided below.

23. Adams teaches “a system... in which autonomous agents manage the distribution of data and index information among the nodes of a computer network (abstract).” These agents move independently from node to node, and different agents perform different functions among the computers, but Adams concentrates on Index Agents, Balance Agents, Replication Agents, and Query Agents. All of these agents perform monitoring and maintenance functions as they travel from computer to computer. For the purposes of illustration, the examiner will concentrate on balance agents, as referenced in each portion of the prior office action. Applicant claims ultimately that the examiner does not adequately demonstrate how each cited portion relates to each method step, and examiner will attempt to rectify this here.

24. A balance agent, as described in the prior office action, moves from computer to computer based on internal lists and on lists present on each node, indicating that nodes are selected to be attended, based on manager selections but also maintenance need. Upon arriving

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at a node, it performs monitoring processes to determine deviation from a preferred state. In this case, a user selects the preferred state of varying nodes' disk drives, i.e. that each node must have 10MB (or 10%) of free disk space. If the free disk space meets or exceeds the free disk space, the agent moves on. If the disk is too full, however, steps are taken to move files and file parts, to manipulate indexes, etc., until the disk has enough free space, which therefore brings the deviated node back to the preferred state of adequate disk space. As the cited art above clearly shows these activities, the balance agent clearly fulfills the steps outlined in the claims for a specific form of preferred state maintenance of the node. Further, the balance nodes maintain the preferred state of the disk space taken up by the index files, by breaking up the index if the file gets too big (deviation from preferred state) and must be made smaller (return to preferred state). While the fullness of a disk drive has, for the sake of this analysis, been deemed as not explicitly a form of hardware or software configuration, it is clearly a preferred state of a computer. Other agents may be considered as fulfilling these steps using a similar analysis, but this analysis sufficiently illustrates the relevance to the claims as drawn.

25. As for the charge that Adams does not disclose updating an older data file with a new data file (P. 4, lines 20-25), the examiner assumes that applicant is referring to paragraph 7 of the currently standing final office action, although "updating" is not specifically mentioned anywhere in the final action currently standing. While it is irrelevant to the analysis above, it is useful in further examining the breadth and state of Adams, and thus shall be addressed.

Applicant admits manipulation of the index file throughout page 4, which certainly falls under the purview of updating an index file. All the agents manipulate index files in certain ways, and the afore-cited sections detail updating of other index files, and in ways other than the updating

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of time stamps. Further, the changing of time stamps may be considered part of hardware or software configuration, i.e. the updating of application files with new versions.

26. The examiner agrees that hardware configuration may be changed via changes in certain files, i.e. configuration and system files, BIOS, and drivers. The purpose of the mentioned issues in paragraph 8 is to clarify the metes and bounds of hardware/software configuration as defined by the examiner, and to further show how file manipulations of certain types may be used to perform hardware or software configuration, among other activities.

27. In response to applicant's argument that Meyer is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, Adams and Meyer both teach manipulation of files, through agents, to change the state of computers according to user preference (Meyer: abstract; col. 1, line 1 – col. 2, line 5).

28. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

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29. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, at the time the invention was made, one of ordinary skill in the art would have combined the two inventions in order to improve on Adams' goal for scalability and configuration change abilities (Adams: col. 1, lines 23-25), and to improve Adams file sharing abilities (Meyer: col. 2, lines 38-41) and improved data and indexing functions through features such as disk drive handling and software inventory (Meyer: col. 5, line 60 – col. 6, line 10; col. 5, lines 55-60).


30. The examiner did in fact take Official Notice regarding the fact that “program instructions are stored on a medium and operable when executed,” as stated in the office action. MPEP 2144.03 describes how an examiner is in fact authorized to use official notice in cases of common knowledge or knowledge well known in the art. As the applicant has not challenged the circumstances justifying the judicial notice, the rejection remains.

For the above reasons, it is believed that the rejections should be sustained.

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Respectfully submitted,

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March 16, 2005

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